1/11

FIG. 1

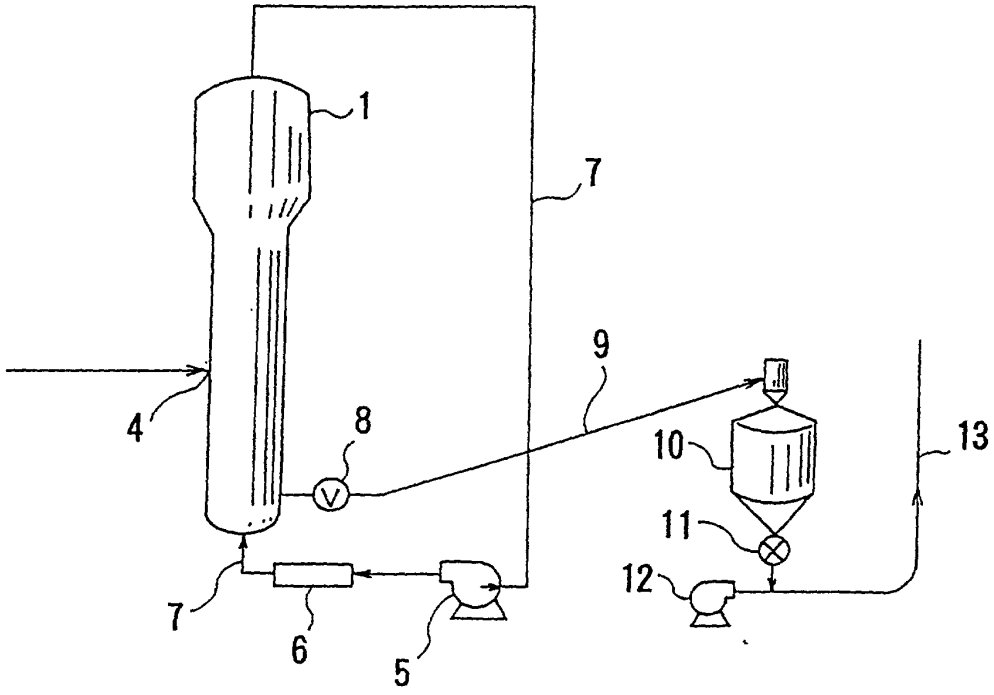

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FIG. 2

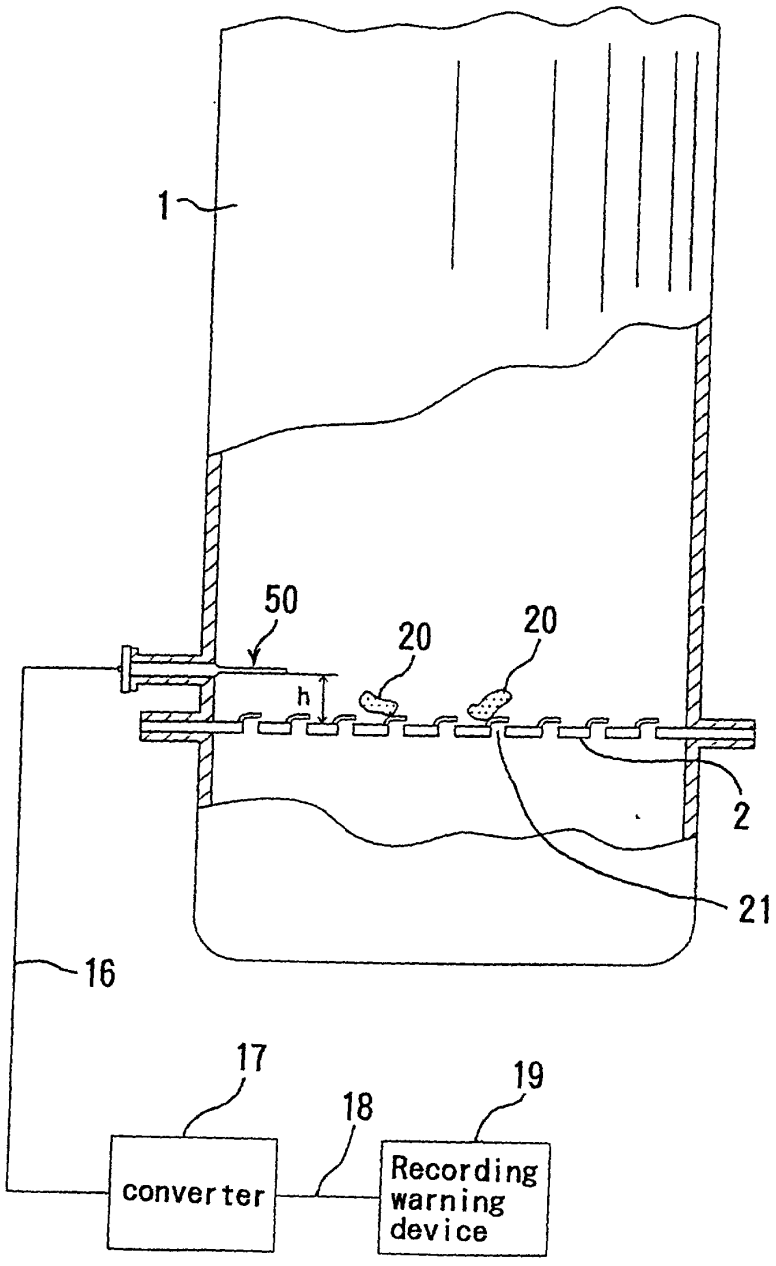
1
50
20
20
h
2
21
16
17
18
19
converter
Recording warning device

FIG. 3

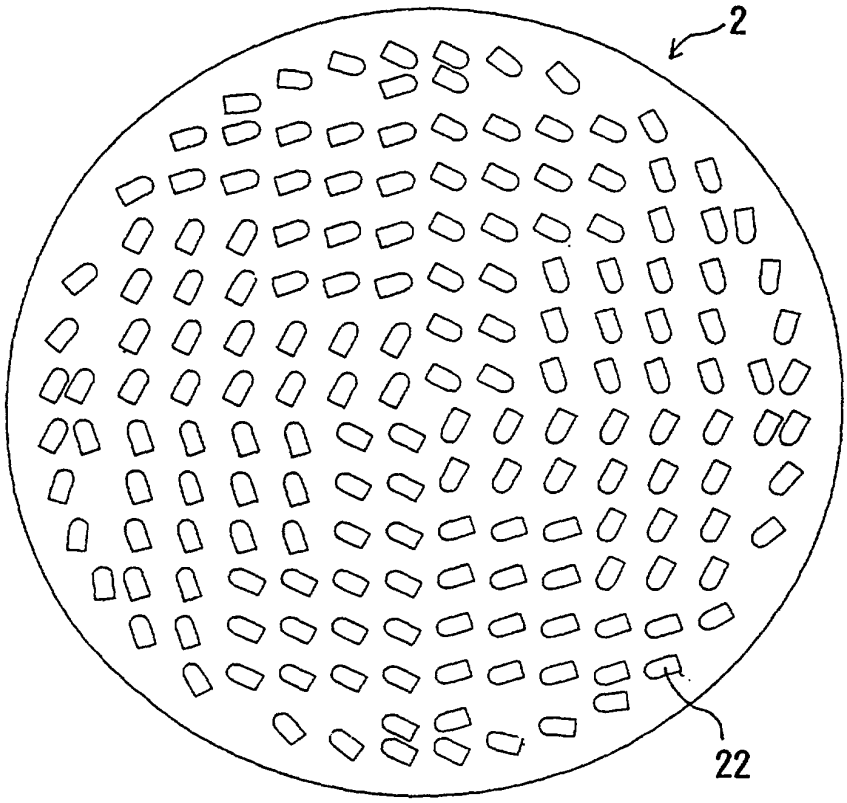

FIG. 4

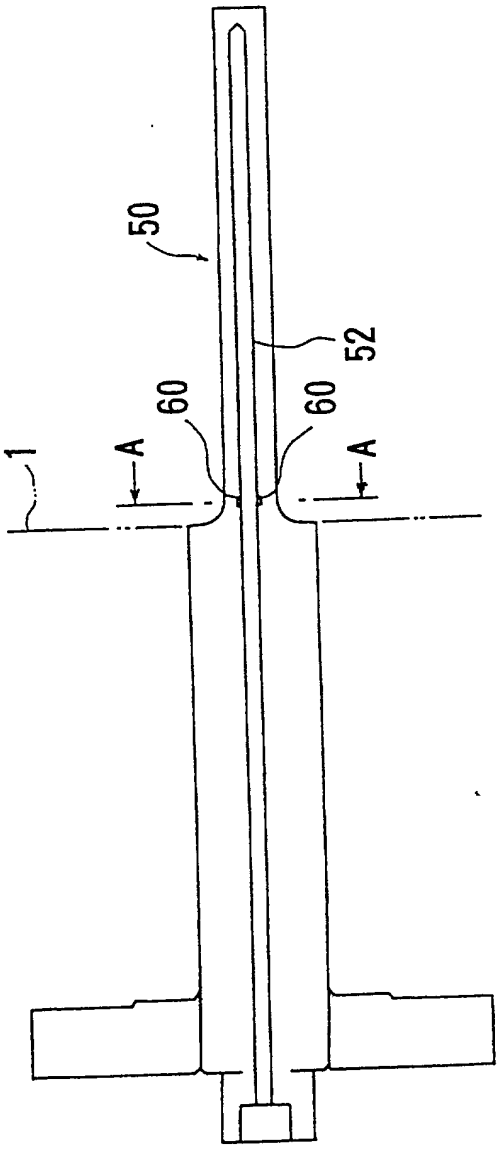

FIG. 5

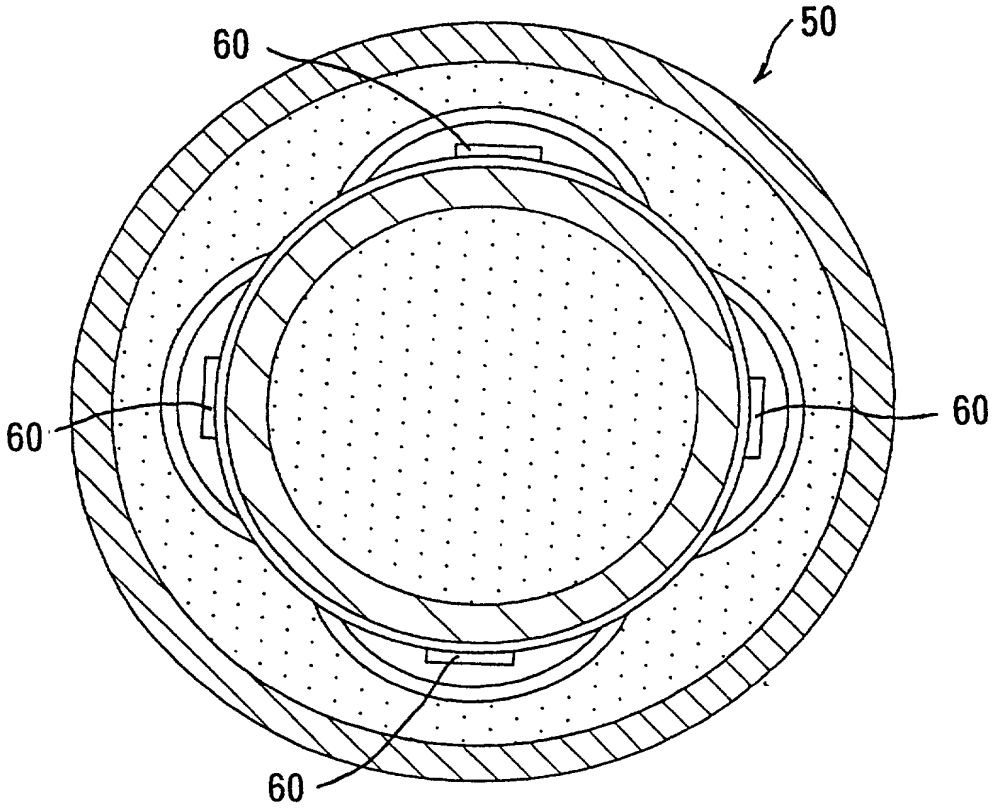

FIG. 6

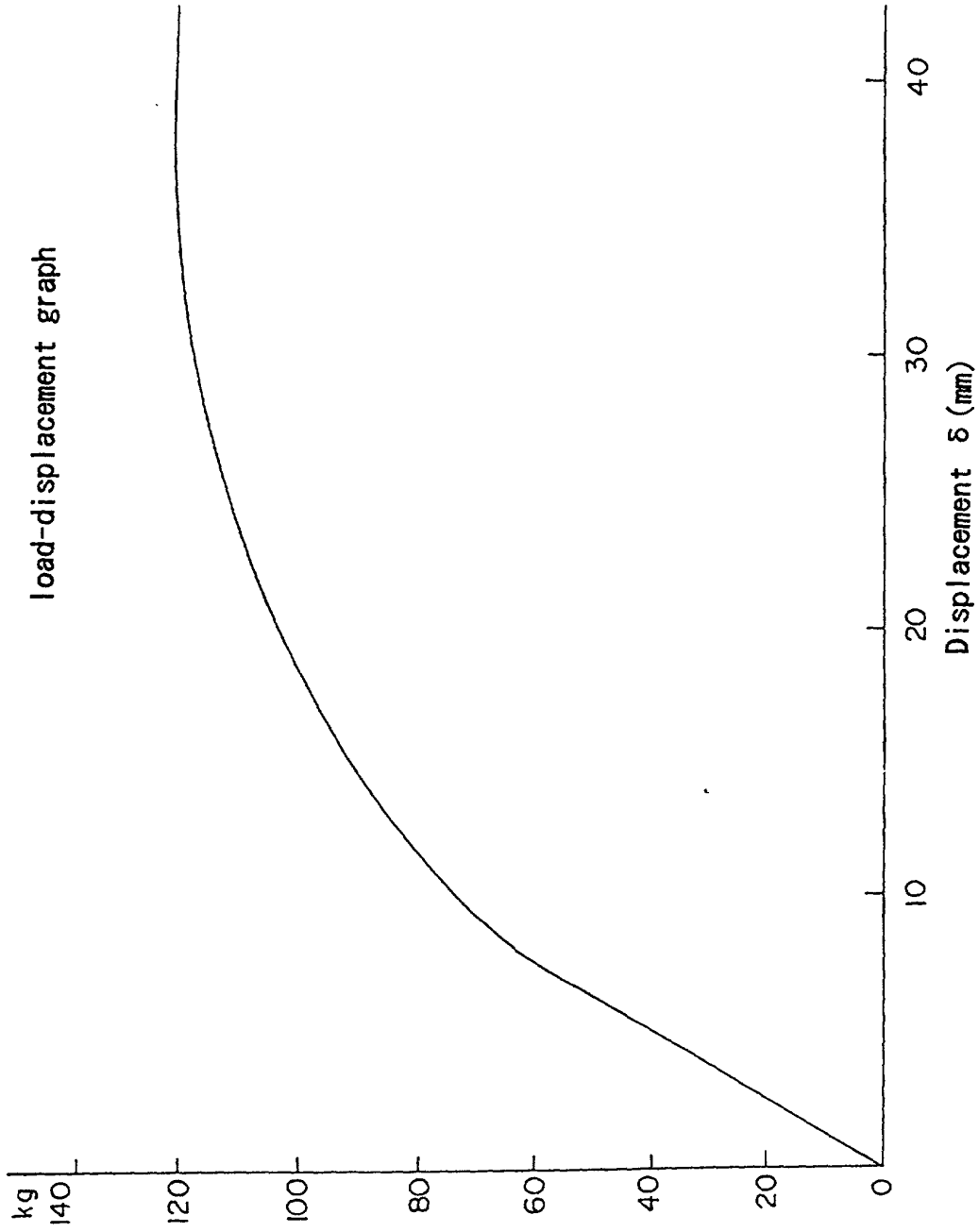
load-displacement graph
kg
140
120
100
80
60
40
20
0
10
20
30
40
Displacement δ (mm)

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FIG. 7

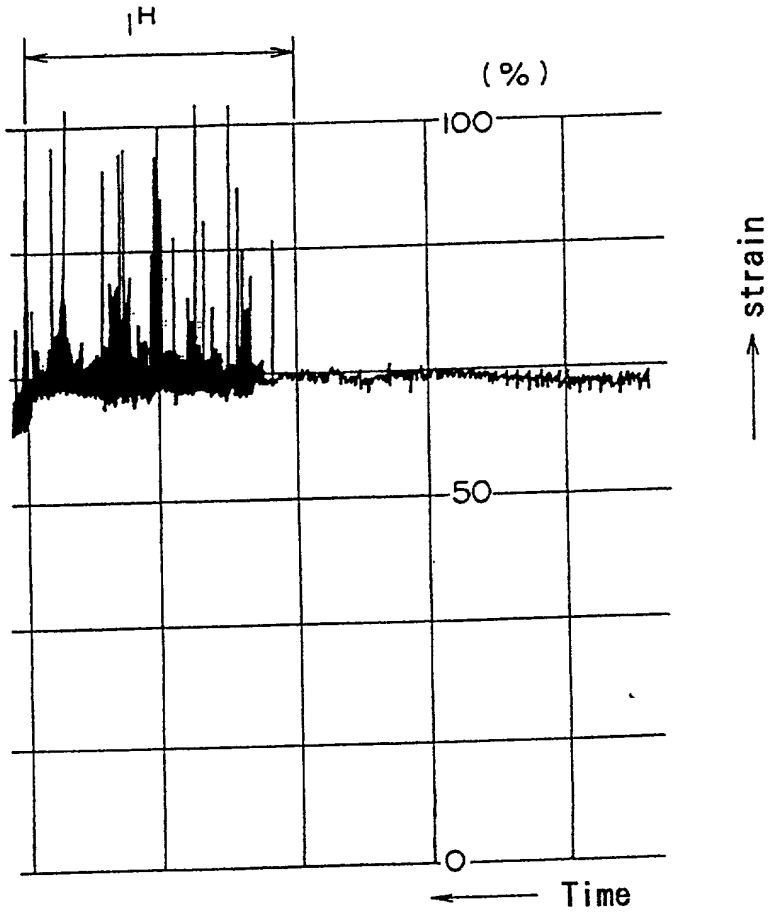


FIG. 8

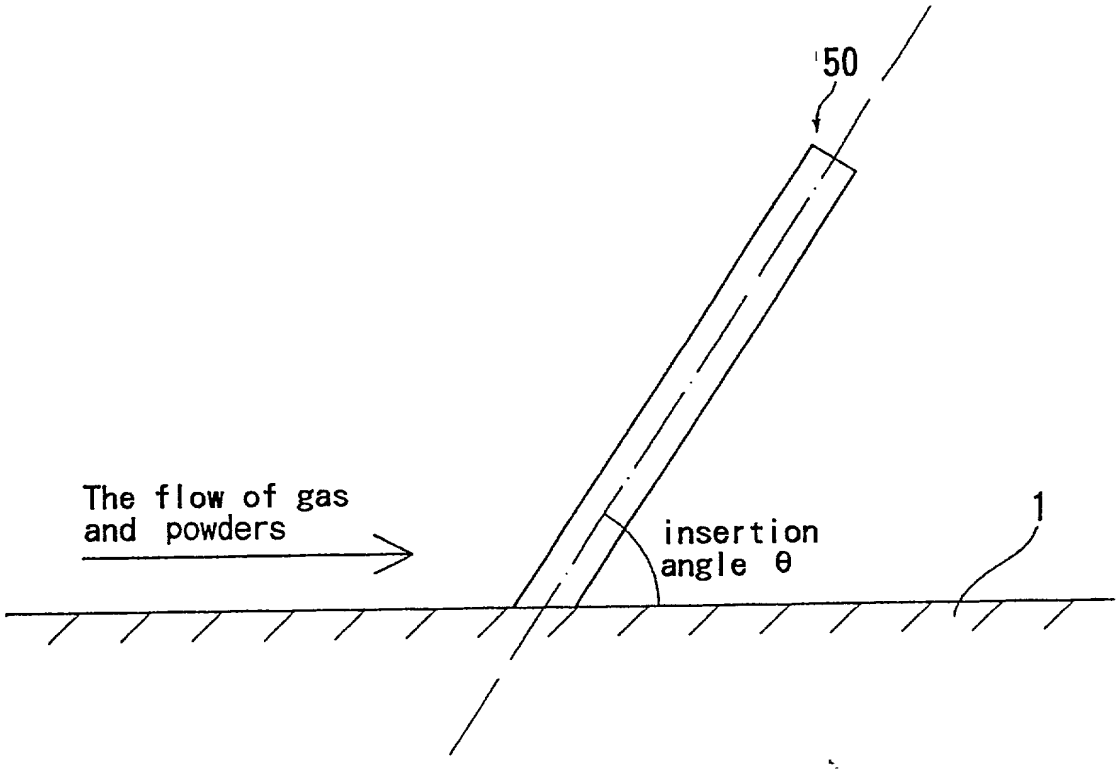


FIG. 9

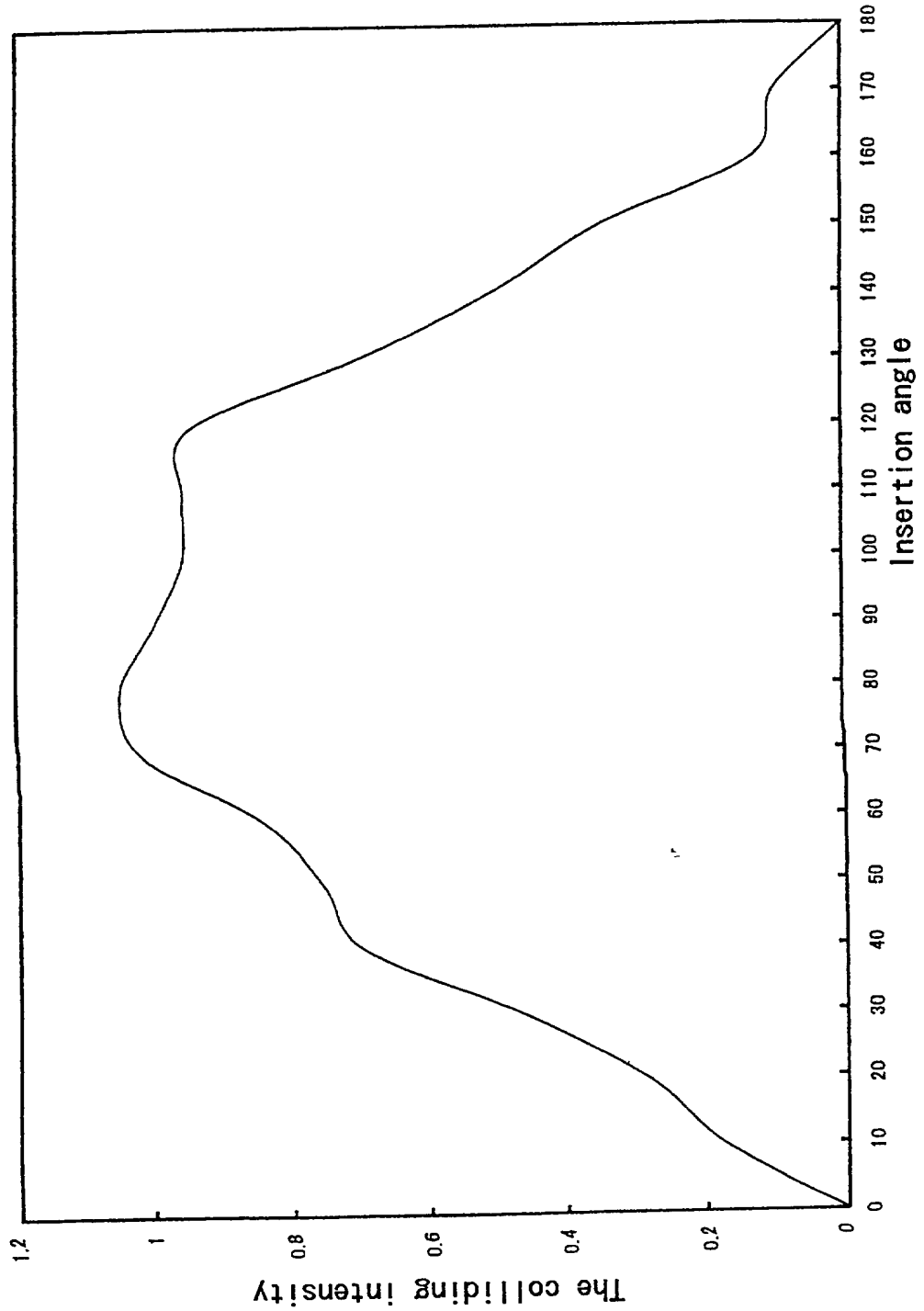

The colliding intensity
1.2
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
Insertion angle

FIG. 10

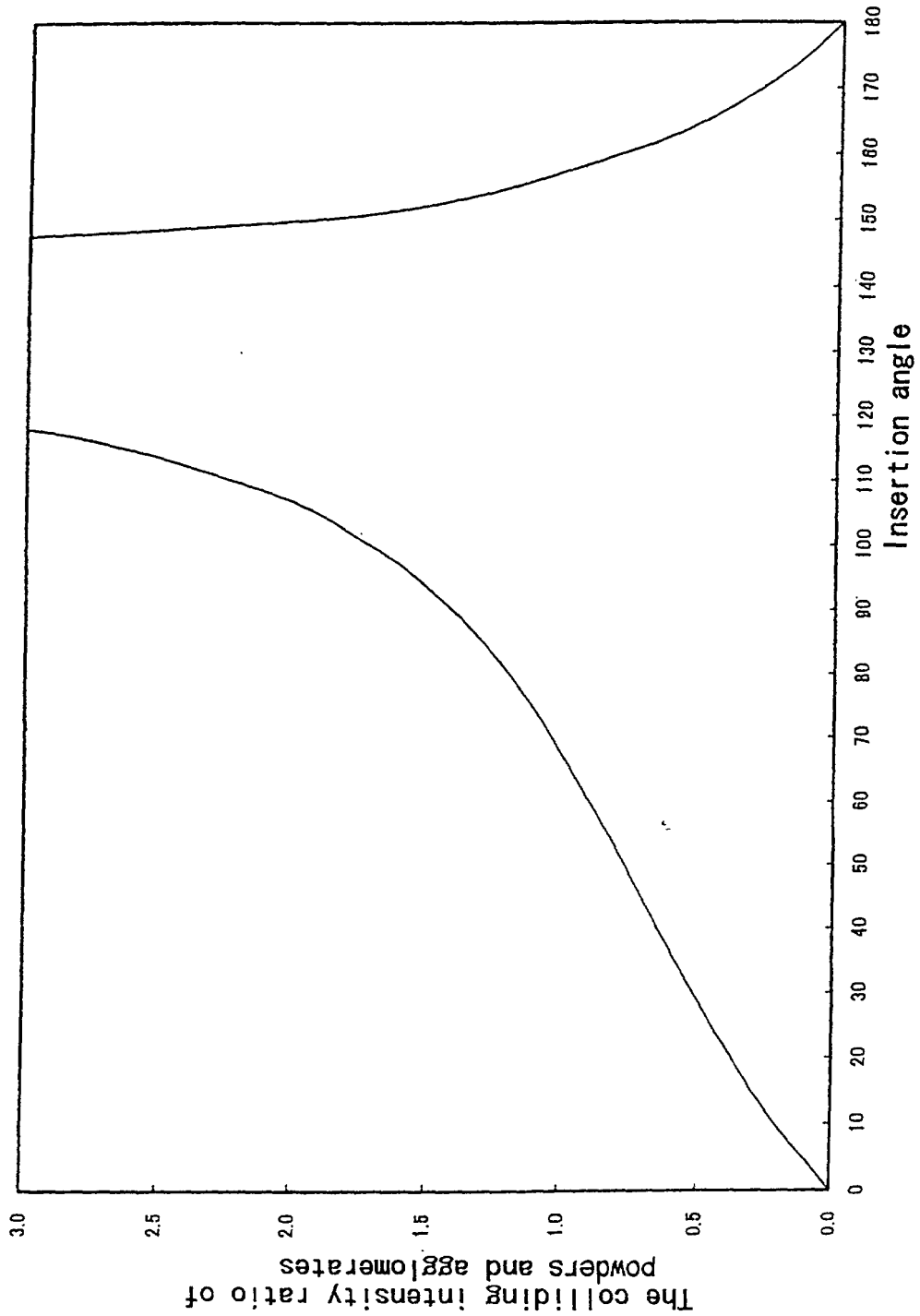
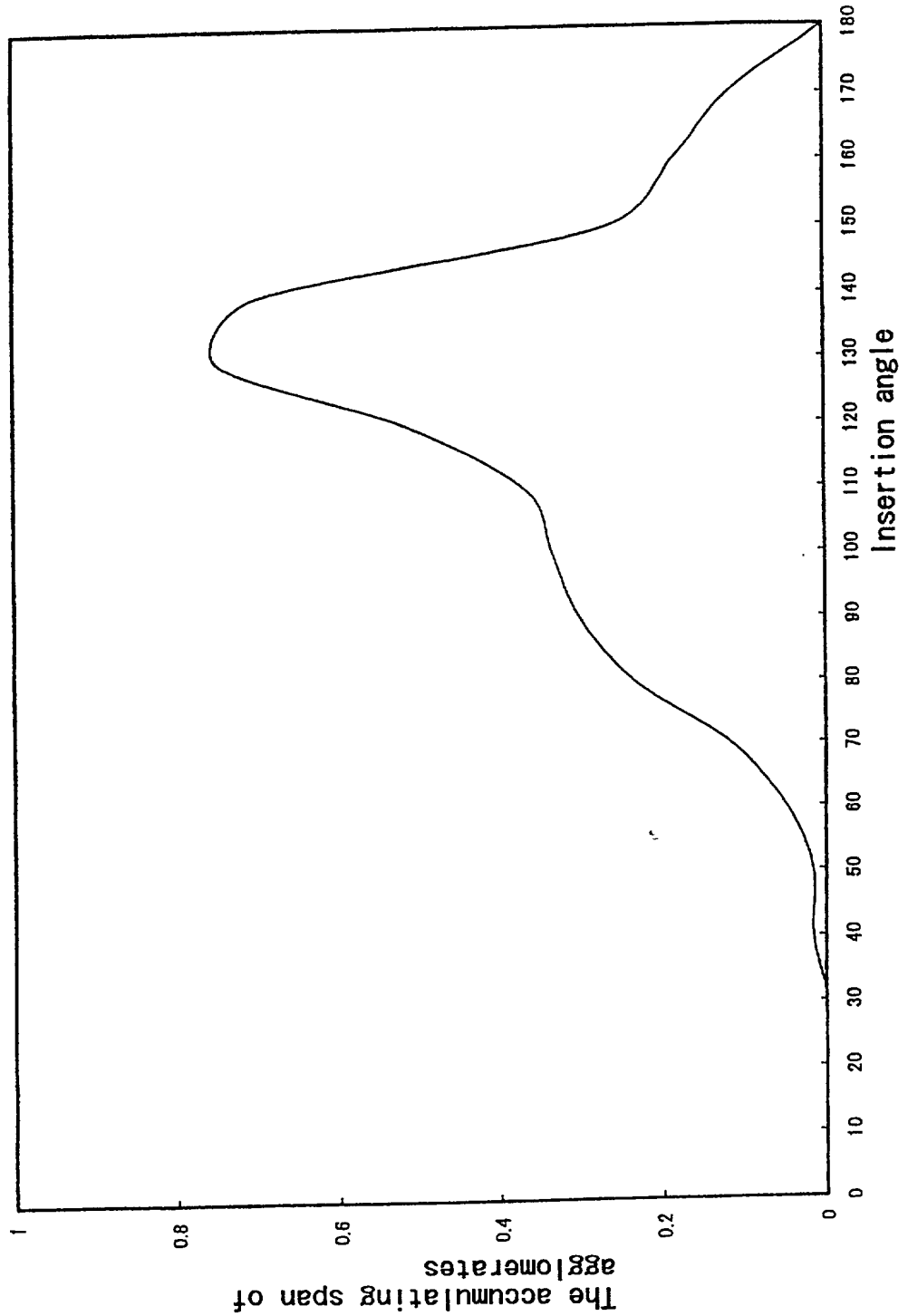

The colliding intensity ratio of powders and agglomerates
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
Insertion angle

FIG. 11


The accumulating span of agglomerates
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
Insertion angle